

THE SPECIES OF CEYLON PEDIPALPI.

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(With one Text Figure.)

IN a recent paper on the Pedipalpi of Ceylon (1910) I published some notes on the habits of these curious creatures. Since this was written I have been able to inquire into their specific characters more fully than was then possible, and have in consequence to correct my identifications of some of the Tartarides. And further specimens of the long-armed form of the small jungle species of *Phrynichus* have now been obtained, which place beyond doubt its claim to rank as at least a definite variety. The object of the present paper is to supply correct identifications of the Tartarides, referred to in my previous one, which will involve the description of two new species, and to describe more completely this long-armed variety of *Phrynichus pusillus*.

TARTARIDES.

Mr. Pocock, when writing the Arachnid volume of the "Fauna of British India and Ceylon," was able to fit all the species there referred to into two genera, *Schizomus*, Cook, and *Trithyreus*, Kraep., following the classification adopted by Kraepelin in a volume of "Das Tierreich." He distinguished the genera by the width of the division of the posterior plate of the carapace, a character which I found to be greatly affected by the method of preservation adopted.

In 1905, several years after Pocock's volume in the "Fauna" series was published, Hansen and Sørensen succeeded in getting together for study a very representative collection of Tartarides of both sexes from various localities in both hemispheres; and together they published a monograph, in which the classification and specific characters of the tribe were dealt with by Dr. Hansen in a way that had never been possible before. In this paper the number of species is extensively added to, but no additional genera are recognized. Indeed, the distinction between the old genera *Schizomus* and *Trithyreus* is regarded as of only sub-generic value. These sub-genera, moreover, are re-defined, so that the distinction between them comes to be not the actual width of the median suture of the

posterior thoracic plate, but, whether (in *Schizomus*) or not (in *Trithyreus*) the reticulate markings of these plates are continued across it.

Hansen records from Ceylon only the two species of *Tartarides* referred to in the "Fauna" volume as having been found there: *Schizomus* (*s. str.*) *crassicaudatus*, Cambr., from Peradeniya, where they were found "under dead leaves and rubbish by M. Ferdinandus in the Royal Botanic Gardens." and *Schizomus* (*Trithyreus*) *suboculatus*, Poc., from Pundalu-oya and Maturata.* With regard to the latter species, he states that the type (and only) specimen described by Pocock was immature—when full grown it is rather

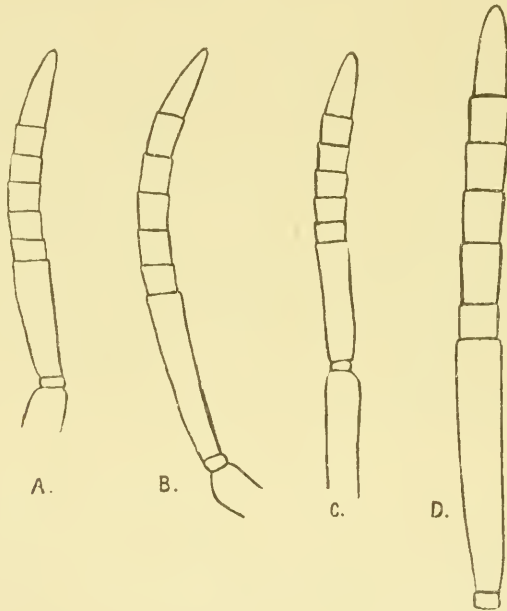


FIG. 2.

Foot of first leg of female of each species of *Tartarides* known from Ceylon. $\times 60$.

A. *Schizomus* (*s. str.*) *crassicaudatus*, Cambr. (camera-lucida drawing).
 B. *Schizomus* (*Trithyreus*) *peradeniyensis*, n. sp. (camera-lucida drawing).

C. *Schizomus* (*Trithyreus*) *vittatus*, n. sp. (camera-lucida drawing).

D. *Schizomus* (*Trithyreus*) *suboculatus*, Poc. (after Hansen).

a large form; and he re-describes both species very fully. A comparison of my specimens with these careful descriptions shows that only the specimens found under bricks, &c., belong to the species *Schizomus* (*s. str.*) *crassicaudatus*. This is in apparent

* The original label of the Maturata specimens bears the inscription "Maturata. Galles" according to Hansen. This, however, is unintelligible as it stands, and I am indebted to Mr. Green for a suggestion that "Galles" refers to the Sinhalese word "gala" (= a rock), and that what is probably meant is "Maturata hills."

contradiction to the type of habitat recorded for the specimens found by M. Ferdinandus, from which the species was originally described; but although the majority of my specimens were found under bricks, a few came from under stones, &c., among the sticks and dead leaves between the roots of the huge rubber trees near the Curator's office in the Gardens, and from small piles of stones mixed with rubbish, but always on or bordering upon open ground; presumably, therefore, the rubbish from which M. Ferdinandus's specimens came had accumulated in some open situation.

The similar but larger form, the female of which was found so abundantly in the shrubberies of the Gardens, and which in my previous paper was confounded with *Schizomus crassicaudatus*, proves to be distinct, and to belong to the sub-genus *Trithyreus*, as defined by Hansen; it is a new species allied to *S. (T.) suboculatus*, Poc. The small green form also belongs to this sub-genus, and is also new. It is not, however, very closely allied to *S. (T.) suboculatus*, Poc., with which I identified it before seeing Hansen's elaborate description of mature specimens. These two new species may be described as follows:—

Genus **Schizomus**, Cook (Sub-genus **Trithyreus**, Kraep.).

Schizomus (Trithyreus) peradeniyensis, n. sp.

S. crassicaudatus (part), Gravely, 1910.

♂ Unknown.

♀ Resembles the female of *S. (T.) suboculatus*, Poc., in all points described by Hansen, except the following: Eye-spots wanting.* In the first (antenniform) legs the femur is slightly longer than the tibia, and the foot is barely two-thirds as long as the tibia and about fourteen times as long as deep; the second metatarsal joint is only two-thirds as long as the tarsus, being slightly shorter than the sum of the five proximal tarsal joints; the second tarsal joint is not unusually long, being scarcely as long as the third; the terminal tarsal joint is somewhat longer than the sum of the two proximal tarsal joints, and about two-fifths as long as the metatarsus. In life the dorsal colour is greenish-gray or brownish (never dark olive-green), varying considerably in different specimens, and passing into a somewhat reddish tint at the anterior end of the carapace and towards the extremities of the legs, the whole of the chelicerae being reddish-brown; ventrally the colour is paler and more

* When specimens are seen from above, a pair of ill-defined whitish patches will almost invariably be noticed in the position occupied by eye-spots in forms which bear them; but a careful examination of well-illuminated specimens in different positions under a Zeiss binocular microscope leads me to believe that these patches are in all cases due to the reflexion of light from the polished sides of the head immediately above the bases of the chelicerae, the chelicerae being partially visible through the carapace.

distinctly reddish at the anterior end. In spirit the ground colour is brown.

Length.—Up to five and a half millimetres.

Schizomus (Trithyreus) vittatus, n. sp.

S. suboculatus, Gravely, 1910.

♂ Unknown.

♀ *Cephalothorax*.—Eye-spots present, whitish, in marked contrast to the surrounding green colour. Cephalic sternum longer than broad.

Arms.—Moderately slender, slightly less than half as long as the body. Trochanter with its lower front angle (about 90°) inconspicuous and much rounded, anterior margin convex. Lower angle of femur not very sharp, very slightly further from the basal than from the distal end of the upper margin of the joint. Patella almost three times as long as deep. Claw a little less than half as long as the upper margin of the tarsus.

First legs.—Rather slender, about equal to the body in length. Coxa terminating a little behind the anterior border of the gnathobase of the chelicera. Femur a little longer than tibia. Foot not quite as long as tibia (about seven-eighths of its length), scarcely nine times as long as deep, deepest at the end of the metatarsus; second metatarsus scarcely as long as the sum of the five proximal joints of the tarsus; terminal tarsal joint not quite as long as the sum of the three proximal joints, and slightly more than half the length of the whole metatarsus.

Fourth legs.—About as long as body; femur rather more than half as long as deep.

Tail.—Short and stout, scarcely four times as long as deep, somewhat swollen in the middle; three jointed, the third joint slightly longer than the sum of the other two.

Colour.—Dorsal sclerites dark olive-green, in striking contrast with the pale integuments which connect them together, and which appear on the abdomen as whitish or somewhat orange-coloured, intersegmental bands nearly one-fourth as broad as the dark green tergites, the posterior ones being somewhat narrower than the anterior. Abdomen with a large ventral dull ochraceous patch bordered with green at the sides and behind. Cephalothoracic sterna whitish; coxæ pale olive-green below, whitish above; trochanters and all connecting membranes of the appendages also whitish; the whole of the chelicerae, the terminal joint of the arms, and all four feet reddish; a crimson spot on the anterior surface of each leg on the connecting membrane between the femur and patella, these spots being most conspicuous on the last pair of legs. Eye-spots whitish, one on each side of the rostrum. Colour scarcely affected by spirit.

Length.—Up to three and a half millimetres.

This species is very closely allied to *S. (T.) modestus*, Hansen, from New Guinea and New Britain. It differs chiefly in having the anterior angle of the trochanter of the arms rounded and the anterior margin convex; in having the foot of the antenniform legs proportionally shorter and stouter; and in the greater stoutness of the tail, which is, moreover, always somewhat swollen at about the middle of its length.

The colour of *S. (T.) vittatus* is very constant even in young specimens, and quite distinct from that of *S. (T.) modestus*, resembling rather that of another allied species, *S. (T.) procerus*, Hansen, from Singapore. The sharply defined white and green segmental bands of the abdomen are always present, and are distinctly visible to the naked eye.

Sections show that the specimens here described include without doubt many mature females.

The chief interest of these two new species lies in the abundance in which they were obtained. Hansen had but a few specimens of each of the species he described, and can have had little direct evidence as to which points were likely to be constant and which were not. He found the proportions of different parts of the antenniform legs to be among the most useful characters by which to distinguish the species, especially in the female sex; and the value of this selection is confirmed by the fact that in each of the long series of *Schizomus (s. str.) crassicaudatus*, *S. (Trithyreus) peradeniyensis*, and *S. (T.) vittatus* which I have examined these characters remain perfectly constant. Only in one instance have I noticed any abnormality, and as this occurred on one side of the specimen only, and affected the *number* of joints in the foot, it was presumably a malformation caused by some accident to the appendage in question.

The form of the lower anterior portion of the trochanter of the arm is another useful character; but this is less fixed, and should not be relied upon unless a good series of specimens are available. Thus, Hansen states that in *Schizomus (s. str.) crassicaudatus* "the best distinguishing mark between this species and all other forms hitherto known is the presence of a process from the lower front angle of the trochanter of the palps"; this process, as they point out, is smaller in the female than in the male, and in the former I find it to be extremely variable in size, often minute, and sometimes entirely absent. The distinctive proportions of the parts of the foot of the antenniform legs being constant are of much greater systematic value, and it may not be out of place here to reiterate Hansen's emphatic statement that "measurement by the eye of such parts is quite insufficient"; the use of an eye-piece micrometer is absolutely necessary.

TARANTULIDÆ.

(= **Phrynichidæ.**)(Genus **Phrynichus**, Karsch.)*P. pusillus*, var. *gracillibrachiatus*, n.

♂ Resembles *P. pusillus* (*s. str.*) in all points, except the greater length and slenderness of the arms. In full-grown specimens the femur of these appendages varies from 19·5 to 29·5 mm. in length in the variety, and from 9·0 to 13·5 in the typical form, the "mode" in both cases being intermediate between the two extreme measurements.

♀ Body distinctly larger than in the male, arms proportionately somewhat shorter and stouter. Second abdominal sternum as in *P. pusillus* (*s. str.*), *i.e.*, with the pair of semi-lunar lobes small or absent.

As intimated in my previous paper, this appears to be chiefly a low-country form, but I am very anxious to obtain if possible further information as to its distribution in the Island before committing myself to any more precise statement than this.

LIST OF PAPERS REFERRED TO.

1899. *Kraepelin, K.*, "Scorpiones und Pedipalpi" in "Das Tierreich."

1900. *Pocock, R. I.*, "Arachnida" in "The Fauna of British India, including Ceylon and Burma."

1905. *Hansen, H. J.*, and *Sörensen, W.*, "The Tartarides, a Tribe of the Order Pedipalpi." *Arkiv för Zool.*, vol. II., No. 8.

1910. *Gravely, F. H.*, "Pedipalpi of Ceylon." "Spolia Zeylanica," vol. VII., pp. 43-47.